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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,481	06/12/2006	Detlef Potoradi	POTORADI-2	3177
20151 7590 10/17/2007 HENRY M FEIEREISEN, LLC 350 FIFTH AVENUE SUITE 4714 NEW YORK, NY 10118			EXAMINER NGUYEN, HANH N	
			ART UNIT 2834	PAPER NUMBER
			MAIL DATE 10/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/560,481

**Applicant(s)**

POTORADI, DETLEF

**Examiner**

Nguyen N. Hanh

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “a stator having a plurality of tooth coils providing a pole coverage of ...” must be shown or the features canceled from claims 6-8 (it is noted that Fig. 2 shows a pole coverage of the rotor, not the stator). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claims 6-8 are objected to because there is no antecedent basis for "a stator having a plurality of tooth coils providing a pole coverage of ..." and "a combined skew". In lights of the drawings and the specification, the Examiner interprets the first limitation as "a rotor having a pole coverage of...of the pole pitch". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al (provided by the Applicant as US 2002/0003382). in view of Huth (US 6,664,690) and further in view of Sibata (provided by the Applicant as US 5,220,228).

Regarding claims 6 and 7, Nakano et al. disclose a permanent-magnet excited synchronous motor, comprising: a stator having a plurality of tooth coils (2 in Fig .1) and a rotor (7) interacting with the stator and constructed to dampen at least one of the harmonics of the rotor field selected from the group consisting of fifth harmonic and seventh harmonic, wherein at least one of the rotor and stator has a skew which with respect to the synchronous motor (paragraph 0036). Nakano et al. fail to show the rotor pole coverage is 85% of the pole pitch (or 80% of the pole pitch as in claim 7) and

the skew angle is between half of a slot pitch and 60% of a slot pitch (or between half of a slot pitch and 0.4285 times a slot pitch in claim 7)

However, Huth discloses a permanent-magnet excited motor having rotor pole coverage having the range from 75% - 80% of the pole pitch (Col. 2, lines 10-14) for the purpose of reducing cost (Col. 1, lines 55-60).

Moreover, Sibata discloses a permanent magnet excited motor wherein the rotor poles are skewed with a skew angle in the half of a slot pitch range (Col. 3, line 25) for the purpose of reducing cogging torque.

Since Nakano et al., Huth and Sibata are in the same field of endeavor, the purpose disclosed by Huth and Sibata would have been recognized in the pertinent art of Nakano et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Nakano et al. by forming the rotor with rotor pole coverage is 80% or 85% of the pole pitch and the skew angle of the rotor pole is half of a slot pitch as taught by Huth and Sibata for the purpose of reducing cogging torque and reducing cost.

Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Regarding claims 8 and 9, Nakano et al. disclose a permanent-magnet excited synchronous motor, comprising: a stator having a plurality of tooth coils (2 in Fig .1) and a rotor (7) disposed for rotation in the stator and a combined skew in the rotor for

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damping the fifth harmonic (paragraph 0036). Nakano et al. fail to show the rotor pole coverage is 85% of the pole pitch (or 80% of the pole pitch as in claim 9) and the skew angle is between half of a slot pitch and 60% of a slot pitch (or between half of a slot pitch and 0.4285 times a slot pitch in claim 9)

However, Huth discloses a permanent-magnet excited motor having rotor pole coverage having the range from 75% - 80% of the pole pitch (Col. 2, lines 10-14) for the purpose of reducing cost (Col. 1, lines 55-60).

Moreover, Sibata discloses a permanent magnet excited motor wherein the rotor poles are skewed with a skew angle in the half of a slot pitch range (Col. 3, line 25) for the purpose of reducing cogging torque.

Since Nakano et al., Huth and Sibata are in the same field of endeavor, the purpose disclosed by Huth and Sibata would have been recognized in the pertinent art of Nakano et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Nakano et al. by forming the rotor with rotor pole coverage is 80% or 85% of the pole pitch and the skew angle of the rotor pole is half of a slot pitch as taught by Huth and Sibata for the purpose of reducing cogging torque and reducing cost.

Moreover, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

### ***Conclusion***

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schubert, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN



October 12, 2007